

Commonwealth of Kentucky
Division for Air Quality
PERMIT STATEMENT OF BASIS

Title V draft No. V-97-054
GREEN RIVER STEEL CORPORATION
OWENSBORO, KY.
December 17, 1997
MANESH JAYAGOPAL

SOURCE DESCRIPTION:

Emission Point #1: Electric Arc Furnaces(EAFs) and Baghouse Dust Handling equipment

COMMENTS:

This emission point shall include emissions during operation of the EAFs and baghouse dust handling equipment.

The particulates from the EAFs shall be controlled by a MicroPul baghouse which shall be operated at an efficiency of 98% and which shall be ensured through the monitoring of the fan amperages. The capture efficiency shall be ensured through the monitoring of the EAF free space static pressure. The CO from the EAFs shall be controlled, with an efficiency of 75%, through oxidation to CO₂ which is achieved through the inherent design of the exhaust hood.

The emission factors for the NO_x from the EAFs was taken from some recent literature of steel furnaces provided by the company. The emission factors for the other pollutants was taken from existing EIS data for this emission point.

The applicable regulations for this point are:

- 401 KAR 61:075 - Steel plants and furnaces using existing electric arc furnaces; and
- 401 KAR 63:020 - Potentially hazardous matter or toxic substance.

40 CFR 60 Subpart AA, Standards of Performance for Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974, and on or Before August 17, 1983, is not applicable.

SOURCE DESCRIPTION:

Emission Point #2: 3 G & B Traveling grinders with a total capacity of 30 TPH.

COMMENTS:

This emission point has primarily particulate emissions from the grinding operations which are controlled by the MicroPul baghouse with a total overall efficiency of 95%.

The applicable regulation for this point is 401 KAR 59:010 - New process operations.

The throughput rate for this emission point has been limited to 145,000 TPY based on a previous permit issued to the plant. This limit has been retained as it was initially imposed based on the NAAQ standards regulation and no modeling has since been provided to justify removal of this limit.

SOURCE DESCRIPTION:

Emission Point #4: Acid etch house using HCl to etch small quantities of steel bars.

COMMENTS:

The primary emissions are from the HCl which is controlled by a Ceilcote scrubber with an efficiency of 98%.

Emission factors are based HCl usage at this emission point and a standard carry over factor of 2%. The only applicable regulation for this point is 401 KAR 59:010 - New process operations.

SOURCE DESCRIPTION:

Emission Point #5: Vacuum degassing boiler with a natural gas usage rate of 58 mmBTU/hour.

COMMENTS:

There are no controls required for this emission point.

The primary emissions are from natural gas combustion. All the emission factors used were taken from AP-42.

The only applicable regulation for this emission point is 401 KAR 59:015, New indirect heat exchanger.

The fuel usage in this furnace is limited to natural gas based on a previous permit issued to the plant. This limit has been retained as it was initially imposed based on the NAAQ standards regulation and no modeling has since been provided to justify removal of this limit.

SOURCE DESCRIPTION:

Emission Point #6: 14 pit and 11 carbottom billet soak furnaces with a total processing rate of 40 tons/hour and a natural gas usage rate of 44 mmBTU/hour.

COMMENTS:

There are no controls required for this emission point.

The primary emissions shall from the natural gas used to heat the metal during the coiling operations. All the emission factors used were taken from AP-42.

The only applicable regulations is 401 KAR 59:020, Existing process operations.

SOURCE DESCRIPTION:

Emission Points 10: A 1239 Bickely Austenitizing furnace with a steel processing rate of 5.5 TPH and a natural gas usage rate of 3.4 mmBTU/hour.

COMMENTS:

There are no controls required for this emission point.

The primary emissions shall from the natural gas used in the boilers. All the emission factors used were taken from AP-42.

The only applicable regulations is 401 KAR 59:010, New process operation.

The source has taken a limit on the particulate emissions rate below that allowed by 401 KAR 59:010, New process operation to preclude PSD. This limit was taken in conjunction with a similar limit for emission point 11 to keep the emissions from the construction below 15 TPY, which is the PSD threshold for particulate emissions at major sources.

SOURCE DESCRIPTION:

Emission Points 11: A 1239 Bickely Tempering furnace with a steel processing rate of 5.5 TPH and a natural gas usage rate of 2.8 mmBTU/hour.

COMMENTS:

There are no controls required for this emission point.

The primary emissions shall from the natural gas used in the boilers. All the emission factors used were taken from AP-42.

The only applicable regulations is 401 KAR 59:010, New process operation.

The source has taken a limit on the particulate emissions rate below that allowed by 401 KAR 59:010, New process operation to preclude PSD. This limit was taken in conjunction with a similar limit for emission point 10 to keep the emissions from the construction below 15 TPY, which is the PSD threshold for particulate emissions at major sources.

SOURCE DESCRIPTION:

Emission Points 12: A 1981 Bickely Austenitizing furnace with a steel processing rate of 6.5 TPH and a natural gas usage rate of 8.53 mmBTU/hour.

COMMENTS:

There are no controls required for this emission point.

The primary emissions shall from the natural gas used in the boilers. All the emission factors used were taken from AP-42.

The only applicable regulations is 401 KAR 59:010, New process operation.

The source has taken a limit on the particulate emissions rate below that allowed by 401 KAR 59:010, New process operation to preclude PSD. This limit was taken in conjunction with a similar limit for emission point 13 to keep the emissions from the construction below 15 TPY, which is the PSD threshold for particulate emissions at major sources.

SOURCE DESCRIPTION:

Emission Points 13: A 1981 Bickely Tempering furnace with a steel processing rate of 6.5 TPH and a natural gas usage rate of 4.04 mmBTU/hour.

COMMENTS:

There are no controls required for this emission point.

The primary emissions shall from the natural gas used in the boilers. All the emission factors used were taken from AP-42.

The only applicable regulations is 401 KAR 59:010, New process operation.

The source has taken a limit on the particulate emissions rate below that allowed by 401 KAR 59:010, New process operation to preclude PSD. This limit was taken in conjunction with a similar limit for emission point 12 to keep the emissions from the construction below 15 TPY, which is the PSD threshold for particulate emissions at major sources.

SOURCE DESCRIPTION:

Emission Point #11: Haul Roads, Paved and Unpaved.

COMMENTS:

Only fugitive particulate emissions are generated at this point. The only requirement for this point is that the dust emissions be kept to a minimum through the watering down of unpaved roads and keeping paved roads clean.

The only applicable regulations is 401 KAR 63:010, Fugitive emissions.
